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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,714	03/29/2004	Bakul C. Dave	66391/47280	1446
7590 THOMPSON COBURN LLP One US Bank Plaza St. Louis, MO 63101-1693			EXAMINER NAFF, DAVID M.	
			ART UNIT 1657	PAPER NUMBER
			MAIL DATE 07/10/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/811,714

**Applicant(s)**

DAVE ET AL.

**Examiner**

David M. Naff

**Art Unit**

1657

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-32 and 37 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 33-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

An amendment of 2/25/08 amended claim 32.

Claims examined on the merits are 1-37, which are all claims in the application.

#### ***Claim Objections***

5           Claims 33-36 are objected to because of the following informalities: the claims recite "selected from the group consisting of". However, a group is not set forth. Only a single spacer formula is recited. It is suggested the above recitation be deleted, and in line 2 of each claim, change "a formula" to --- the formula ---. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

10           Claims 1, 2, 6-10, 12-31 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al (5,200,334) in view of Reetz et al (6,080,402).

The claims are drawn to a porous glass composite comprising a gel having a group of alterable charge, a hydrophilic group and a hydrophobic group and containing an alkoxodisilane derivative and water.

15           Dunn et al disclose producing a sol-gel glass containing a biological material (Fig 1).

Reetz et al disclose producing a silica matrix for immobilizing an enzyme containing a alkoxodisilane (col 2, line 59).

20           It would have been obvious to prepare the sol-gel glass of Dunn et al using a alkoxodisilane to obtain the function of the alkoxodisilane as obtained by Reetz et al when preparing a silica matrix. The resultant material can inherently contain a group of alterable charge, a hydrophobic group and a hydrophilic group. The limitations of dependent claims would have been a matter of obvious choice within the skill of the art in view of the disclosures of the references.

### ***Response to Arguments***

The amendment and Declarations of Dr. Dave (filed in parent application 09/320,793) urge that the alkoxy drops off when the alkoxodisilane hydrolyzes in Reetz et al. However, the claims do not exclude hydrolysis that may occur in Reetz et al and the alkoxy dropping off.

- 5 Claim 1 does not require an alkoxosilane, per se, but requires a derivative of the alkoxosilane. The derivative can be a hydrolysis product. The claims do not require the alterable charge group, hydrophobic group and hydrophilic group each to be part of the alkoxosilane derivative. The groups of claim 1 can be in the sol-gel glass of Dunn et al from sources other than the alkoxodisilane such as additives or biological material added. Since the groups are not part of
- 10 the alkoxosilane derivative, the composite will not have to be "smart" as asserted in the amendment and declarations.

### ***Double Patenting***

- 15 A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

- 20 A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

- 25 Claims 2, 3 and 32 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 17, 18 and 19 of prior U.S. Patent No. 6,756,217. This is a double patenting rejection.

### ***Response to Arguments***

- 30 The terminal disclaimer submitted cannot overcome this rejection since the rejection is under 35 U.S.C. 101.

***Conclusion***

Claims 3-5, 11 and 32-36 are free of the prior art.

Claims 4 and 5 are allowable, but are objected to as being dependent on a rejected claim.

5 ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the  
10 mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final  
15 action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
20 supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M. Naff/  
Primary Examiner, Art Unit 1657

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DMN  
7/7/08